C2-6104A
Multi-Window Processor

Key Features

- 4-Window Processor
- 4x High Quality CORIO®2 Scaling Engines
- HDMI compatible Inputs and output
- 5x DVI-U/HDMI inputs (Resolutions from base-band to 1920x1200)
- HDCP compatible
- Supports embedded HDMI audio
- 5th input (DVI-I/HDMI) for reference, background or cascading of multiple units
- 4x Internal Still Image Stores
- DVI-D I/O support to 1920x1200, 1080p@60Hz
- Analog Video DVI-A I/O support to 2048x2048, 1080p@60Hz
- Analog Input supports RGBHV, RGBS, RGsB, YPbPr, YC and CV
- 10 User-definable Presets for quick setup
- Motion Adaptive De-interlacing and Noise Reduction for YUV and YPbPr inputs
- Color Borders and Source Labelling
- Variable Image Zoom to 10X and Shrink to 10%
- Per-pixel or Percentage Scaling Control
- Autoset - Automatic Analog Picture Sizing
- Chromakey, Lumakey, Genlock and Mix
- Front Panel includes LCD, Menu Control and Quick- Setup features
- Control via RS-232/RS-422/RS-485, Ethernet or Front Panel
- CORIO Tool Suite compatible
- Optional modules (e.g. for Tally input/output)
- 1RU rack-mount case

Overview

C2-6104A 4-Window DVI-U Processor is based on tvONE's exclusive CORIO®2 technology and has five HDCP compatible DVI-U/HDMI inputs (DVI-U is the same as a DVI-I connection but with the additional flexibility of accepting Composite and S-Video signals) to place up to 4 sizeable windows on a single DVI-I output. One additional input is provided for cascade or background usage only. Each window is powered by a CORIO®2 scaler, providing full PIP flexibility. All inputs and output are HDMI compatible.

DVI-D resolutions up to 1920x1200@60Hz and 1080p are supported along with analog DVI-A (RGBHV/YUV/ YPbPr/YC/CV via optional HD-15 or breakout adaptor) resolutions up to 2048x2048 at virtually any refresh rate. Virtually all computer signal formats are accommodated. HDMI audio can be embedded, switched or set to follow Window A only. High performance de-interlacing with motion-adaptive noise reduction provides input compatibility with YUV, YPbPr, YC and CV sources such as 525i, 625i, 720p, 1080i and 1080p. Custom resolutions can also be added quickly and easily using available software.

All settings are stored in non-volatile memory and are retained even when power is switched off. Ten user defined presets (controllable directly from the front panel or external communications) are also available to customize settings for various applications. A built-in LCD and menu system aids quick setup. Functions can be controlled via the front panel Push Buttons, RS-232/ RS-422/RS-485 or Ethernet.

Color borders and source labelling are also provided for each window. Four Still Image Stores are built into the unit which can each display one of ten user loadable graphic images to be used in place of an input. The 5th input is available for use as a background to the 4 windows, or as a cascade input from another unit – thus adding 4 more windows per unit.

The CORIO® Tool Suite integrates fully with the unit and most third party control systems interface directly with the entire C2 range of products. Optional modules such as Tally I/O (with UMD support) can also be fitted.

Variable Zoom to 10X allows you to enlarge any part of the graphic image to fill the entire computer screen and position controls allow you to move around to any area desired. Variable Shrink to as little as 10% allows fitting multiple images next to each other, with full positional controls.

Advanced Features - include Genlock, Chromakey, Lumakey and Mixing. The Key Mode allows any window to be keyed over any other with variable priority / layer control. The keyed image may be faded in and out. Due to the 4:4:4 sampling format, precise keying at the pixel level can be achieved.

The unit is housed in a 1RU case with rack mount ears provided and is powered from a standard 110-240v supply.

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Specifications

Inputs

Signal Type	5x DVI-U/HDMI via DVI-I Connector
Digital DVI-D Format:	TMDS (Transition-Minimized Differential Signaling)
Max HD Resolution	1080p@60Hz
Max PC Resolution	1920x1200@60Hz
Analog DVI-A Format:	Composite, S-Video, YPbPr, RGBHV
Television Standards	NTSC, PAL, PAL-M, PAL-N, SECAM
Max HDTV Resolution	1080p@60Hz
Max PC Resolution	2048x2048
Max Horiz Scan Rate	150KHz
Signal Format (Via DVI-I)	RGBHV, RGBS, RGsB, YPbPr, YC, CV
Sync	TTL Level, 10KΩ, Pos or Neg
Termination	75Ω
R-G-B Level Range	0.5-2.0 Vp-p
Scan Rate Detection	Automatic

Output

Signal Type	1x DVI-I/HDMI via DVI-I Connector
Digital DVI-D Format	TMDS
Max HD Resolution	1080p@60Hz
Max PC Resolution	1920x1200@60Hz
Analog DVI-A Format	
Max HDTV Resolution	1080p@60Hz
Max PC Resolution	2048x2048
Vertical Refresh Rate	Any to 250Hz
Signal Format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p

General

HDMI audio support	Embed, switch and follow Window A
HDCP compatible	YES
Size and Position	Automatic via AutoSet or Manual
Image Size	User-Definable Presets
Image Freeze	One Video Frame
Settings Memory	Non-Volatile
Zoom Range	Variable to 10X Zoom
Shrink Range	Variable to 10%
Image Mirroring	Horizontal and/or Vertical
Horizontal Filtering	Full Digital
YPbPr de-interlacing	Motion adaptive + noise reduction
Film Mode (525i/1080i)	3:2 Pull Down Detection
Conversion Technology	Proprietary – CORIO®2
Frame Rate Conversion	Frame add/drop
Color Resolution	24-bit (16.8 Million Colors)
Sampling Rate	162MHz
Digital Sampling	24-bit, 4:4:4 format
Firmware Memory	Flash, Upgradeable via RS-232
Analog Video Adjust	R-G-B Levels Contrast, Phase

Control Methods

Local	via Front Panel Buttons & LCD
RS-232/RS-485/RS-422	via D9 Female Connector
Ethernet (TCP/IP)	RJ45
Tally module (optional)	Tally and UMD support.

Warranty

Limited Warranty	5 Years Parts and Labor

Regulatory Compliance

Main Units	FCC, CE, RoHS
Power Supply	UL, CUL, CE, PSE, GS, RoHS

Mechanical

Desktop Case (HWD)	44x420x200mm (1.75"x17"x7.9")
With Rack Ears (HWD)	44x482x200mm (1.75"x19"x7.9")
Weight (Net)	3kg (6.6lbs) unboxed

Environmental

Operating Temperature	0° to +50° C (+32° to +122° F)
Operating Humidity	10% to 85%, Non-condensing
Storage Temperature	-10° to +70° C (+14° to +158° F)
Storage Humidity	10% to 85%, Non-condensing

Power Requirement

Internal Power Supply	100-240VAC, 50-60Hz, 50W

Power Consumption

Maximum load	29-watts

Thermal Dissipation

Maximum output	98-BTU/Hr

Ambient Noise

Sound Pressure Level	36dB (A) @ 1 m

Accessories Included

1x AC Power Cord	6' (2m) US, US, Euro or AU
1x VGA to DVI Adapter	ZDH-2040
1x BNC to DVI Adapter	ZDC-2050
1x Operations Manual	
1x Rack mount Kit	2 Ears and 4 Screws
1x Control Software	Downloadable from website

Product Item Numbers

C2-6104A	Quad-PIP DVI-U Scaler

Optional Accessories

RM110	Rear rack rail supports for 24" to 32" deep racks
CMD1941	DVI Male to HDMI Female
ZDH-2038	DVI-I Male to 5-BNC Female
ZDC-2050	DVI-A to BNC Female
ZDH-2040	DVI-I Male to VGA Female
C2M-TALLY	Tally / UMD Module

Panel Drawings